

Appln No. 10/728,799
Amdt. Dated May 27, 2004
Response to Office action of March 29, 2004

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REMARKS/ARGUMENTS

The Applicant thanks the Examiner for the Office Action dated March 29, 2004.

AMENDMENTS

Claim 1 has been amended to improve its clarity. The claim now specifies an array of wafer scale polymeric caps and is consistent with the dependent claims, also specifying an array. No new subject-matter is introduced by this amendment.

CLAIM REJECTIONS - 35 USC § 102

The Applicant contests the Examiner's assertion that the present invention is anticipated by the disclosure of Fujii et al (US 6,429,506).

Claim 1 of the present application specifies that the polymeric caps are formed in a two-part mold by bringing together a first and second mold halves. This is not described anywhere in the cited prior art documents.

Fujii et al (US 6,429,506)

Fujii describes a method of forming an array of wafer scale polymeric caps by *vacuum molding*. This vacuum molding process uses a *one-piece mold*, which is clearly described in Figures 1A-1D and the corresponding part of the description at column 3, line 39 *et seq.*

Referring specifically to Figure 1C of Fujii, there is shown a jig 4 having a polymeric protective sheet 1 in contact with its surface. This polymeric sheet 1 is molded into the surface contours of the jig 4 by a vacuum, which is applied to holes 3 in the jig. Hence, the polymeric sheet 1 is molded by a one-piece mold using a vacuum molding process.

Having molded the polymeric sheet 1, it is then diced by mechanical cutting to separate the sheet into individual protective caps 5. The individual protective caps 5 disposed on the jig 4 are shown in Figure 1D – each cap 5 is separated from adjacent caps by the grooves 6.

The Examiner makes specific reference to Figure 8 of Fujii. Figure 8 merely shows an embodiment whereby the front and back surfaces of a semiconductor wafer 11 are protected. The back side of the wafer 11 is protected by a protective sheet 42; the front side of the wafer 11 is protected by molded polymeric caps 14. This is shown in Figure 8B and the corresponding part of the description at column 6, lines 60-66, where it is stated:

At a back side adhesive sheet bonding step, an adhesive sheet (back side protective sheet) 42 is bonded to the back surface of the semiconductor wafer 11 to protect the back surface. Further, at the wafer bonding step, the protective sheet 1, which is processed as in the first embodiment to have the grooves 6, is bonded to the front surface of the semiconductor wafer 11 while being fixed to the jig 4 (emphasis added).

In other words, Figure 8B shows the protective cap and jig arrangement described in Figure 1D being applied to the front surface of the wafer 11. The protective caps 14 are pre-molded

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by the vacuum molding process described above *before* being applied to the wafer 11 in Figure 8B. This vacuum molding process clearly uses a one-piece mold.

There is no sense in which Figure 8B shows protective caps being molded by bringing together a first and second mold halves. There are no molding steps shown in Figure 8 at all; Figure 8 simply shows a process for applying an array of pre-molded protective caps to a surface of a semiconductor wafer.

In view of these submissions, the Examiner is requested to withdraw his objections under 35 USC § 102. Fujii fails to describe an array of wafer scale polymer caps made by the method specified in claim 1.

CLAIM REJECTIONS - 35 USC § 103

The objections against dependent claims 9 and 11 under 35 USC § 103 are not considered to be relevant in view of the submissions made above. Accordingly, the Examiner is requested to withdraw his objections under 35 USC § 103.

It is respectfully submitted that all of the Examiner's objections have been successfully traversed. Accordingly, it is submitted that the application is now in condition for allowance. Reconsideration and allowance of the application is courteously solicited.

Very respectfully,

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